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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,194	09/29/2000	Gary D. Zimmerman	10001701-1	1444

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EXAMINER

PHAM, THIERRY L

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 05/19/2004

2

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/675,194

Applicant(s)

ZIMMERMAN, GARY D.

Examiner

Thierry L Pham

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 9-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-8 and 21-23 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I: Claims 1-8 drawn to a "cable" incorporated with printer controller for communicating with the printers, classified in class 358, subclass 1.1.

Group II: Claims 9-20 drawn to print server and/or controller for managing printer programs/drivers and to test the programs compatibilities, classified in class 358, subclass 1.15.

Group III: Claims 21-23 drawn to an office machine such as printer, copy machine, and/or fax machine, classified in 358, subclass 500.

Inventions I, II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I drawn to a "cable" incorporated with printer controller for communicating with the printers, wherein invention II drawn to print server and/or controller for managing printer programs/drivers and to test the programs compatibilities, and wherein invention III drawn to an office machine such as printer, copy machine, and/or fax machine. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, each Group requiring a separate field of search, and their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Pamela Lau Kee on 04/15/04 a provisional election was made with traverse to prosecute the invention of Group II, claims 9-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-8 and 21-23 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 9-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohara (U.S. 6438643).

Regarding claim 1, Ohara discloses a printer controller (printer controller comprising CPU 11, RAM 13, and ROM 12 which are incorporated in the printer, fig. 1) for coupling to a source (computer, fig. 1) comprising:

(a) a random access memory (RAM 13, fig. 1) for storing a non-resident printer controller program (printer's software, fig. 8, and printer's software can be updated periodically, col. 3, lines 33-45 and col. 15, lines 15-60);

(b) a processor (CPU 11, fig. 1) for executing computer programs coupled to the random access memory; and

(c) a dynamic loading program (control program stored in ROM 12 of printer 10 for managing and downloading the current version of the printer's software, fig. 1, col. 15, lines 15-60) for managing the download of the non-resident printer controller program (printer's software, fig. 8) to the random access memory.

Regarding claim 10, Ohara further discloses the printer controller of claim 9, wherein the dynamic loading program, when executing on the processor, selectively downloads from the source the non-resident controller program to the printer controller when it is determined that the current version (updating to the most current version of printer software, figs. 8-11, col. 17, lines 22-35) of the printer controller program resident in the random access memory is not valid (if the

current version is not valid, then updating to the most current version of printer software, figs. 8-11, col. 17, lines 22-67).

Regarding claim 11, Ohara further discloses the printer controller of claim 9, wherein the dynamic loading program, when executing on the processor, selectively downloads from the source the non-resident printer controller program to the printer controller when it is determined that the current version of the printer controller program resident in the random access memory is one of non-existent and corrupt (if the current version is not valid and/or corrupt, then updating to the most current version of printer software, figs. 8-11, col. 17, lines 22-67).

Regarding claim 12, Ohara further discloses the printer controller of claim 10, wherein the printer controller program, when executing on the processor, receives print controller ready data (receiving print data from the host computer, fig. 1) and based thereon generates print engine ready data (it is known in the art the printer controller also converts print data to printer language data, fig. 1) and controlling a print engine (CPU 11 controls the print engine, fig. 1).

Regarding claim 13, the printer controller of claim 9 further comprising: an integrity check module, when executing on the processor, for performing an integrity check on the printer controller program to determine whether the printer controller program is valid, re-installing the printer controller program from the source when the printer controller program is not valid (if the current version is not valid, then updating to the most current version of printer software, figs. 8-11, col. 17, lines 22-67), performing compatibility tests (compatibility test, fig. 14) to determine whether the printer controller program is compatible with the printer controller and a printing software, re-installing the printer controller program from the source when the printer controller program not compatible with printer controller and the printing software (selecting a different version of printer software if it is not compatible, col. 21, lines 23-67 to col. 22, lines 1-67).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohara as described in claim 1 above, and in view of Narukawa (U.S. 5978943).

Regarding claims 14-15, Ohara does not explicitly disclose wherein the printer controller is embodied in a single integrated circuit and the single integrated circuit is an application specific integrated circuit (ASIC).

Narukawa, in the same field of endeavor for printer controller, teaches the printer controller (printer controller 4, fig. 1) is embodied in a single integrated circuit and the single integrated circuit is an application specific integrated circuit (ASIC), fig. 1, col. 1, lines 1-67 to col. 2, lines 1-52).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Ohara as per teachings of Narukawa because of a following reason: (1) to reduce hardware cost and its dimension (size) of Ohara by constructing a printer controller in a single integrated circuit (ASIC) as per teachings of Narukawa.

Therefore, it would have been obvious to combine Ohara with Narukawa to obtain the invention as specified in claims 14-15.

6. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohara (6438643), and in view of Terashima et al (U.S. 6538762).

Regarding claim 16, Ohara discloses a method of printing in a system (fig. 1) that includes a printer having a print engine (printer, fig. 1), a printer controller (printer controller comprising CPU 11, RAM 13, and ROM 12 which are incorporated in the printer, fig. 1), a host having a printing software (host computer, fig. 1), the method comprising the steps of:

- (a) determining (determining via CPU 11, fig. 1) whether the printer controller program is loaded in the memory of the printer controller (CPU for determining the controller program stored in the storage memory device, RAM 12, fig. 1, col. 15, lines 15-60);
- (b) determining whether the printer controller program is valid (if the current version is not valid, then updating to the most current version of printer software, figs. 8-11, col. 17, lines 22-67);
- (c) determining whether the printer controller program is compatible with the print engine, the printing software and printer controller (compatibility test, fig. 14);
- (d) sending data (sending data from the host computer to the printer controller via network, fig. 1) to printed to the printer controller when the printer controller program is loaded; valid, and compatible (selecting a different version of printer software if it is not compatible, col. 21, lines 23-67 to col. 22, lines 1-67).

However, Ohara does not explicitly disclose wherein the printer controller is external of the printer (that is the printer controller is constructed outside of the printer).

Terashima, in the same field of endeavor for printing control method, teaches a printer controller is external of the printer (figs. 1-4 show a printer controller can be either incorporated in the printer or outside of the printer).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Ohara as per teachings of Terashima because of a following reason: (1) to enable the flexibilities of installing the printer controller (either inside or outside of the printer).

Therefore, it would have been obvious to combine Ohara with Terashima to obtain the invention as specified in claim 16.

Regarding claim 17, Ohara further teaches the method of claim 16 further comprising: downloading the printer controlling program to the printer controller when the printer controller program is one of not loaded, invalid, and incompatible (selecting a different version of printer software if the compatibility test is failed, fig. 14, col. 21, lines 23-67 to col. 22, lines 1-67).

Regarding claim 18, the method of claim 17, wherein the step of downloading the printer controller program to the printer controller further comprises: automatically downloading (col. 3, lines 40-45) the printer controller program from the host to the printer controller.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohara and Terashima as described in claim 16 above, and further in view of Benjamin et al (U.S. 6113208).

The combinations of Ohara and Terashima as described in claim 16 above does not explicitly teach wherein the step of downloading the printer controller program to the printer controller further comprises automatically downloading the printer controller program from a website to the printer controller.

Benjamin, in the same field of endeavor for printing, teaches the step of downloading the printer controller program to the printer controller further comprises automatically downloading the printer controller program from a website (downloading updated/new version of printer driver via Internet/Web Site, col. 3, lines 50-67 to col. 4, lines 1-40) to the printer controller.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Ohara and Terashima as per teachings of Benjamin because of a following reason: (1) downloading and installing the latest/newest compatible printer driver will improve operating efficiency of the printer.

Therefore, it would have been obvious to combine Ohara and Terashima with Benjamin to obtain the invention as specified in claim 19.

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohara and Terashima as described in claim 16 above, and further in view of Austin (U.S. 6665089).

The combinations of Ohara and Terashima as described in claim 16 above does not explicitly teach wherein the step of determining whether the printer controller program is valid further comprises: performing a cyclic redundancy check on the printer controller program.

Austin, in the same field of endeavor for printing, teaches the step of determining whether the printer controller program is valid further comprises: performing a cyclic

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redundancy check (Fig. 18, col. 12, lines 60-67 to col. 13, lines 1-30) on the printer controller program.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Ohara and Terashima as per teachings of Austin because of a following reason: (1) an additional method of testing (CRC checking method) increase the flexibility of testing the printer controller programs to provide an accurate results.

Therefore, it would have been obvious to combine Ohara and Terashima with Austin to obtain the invention as specified in claim 20.

Conclusion

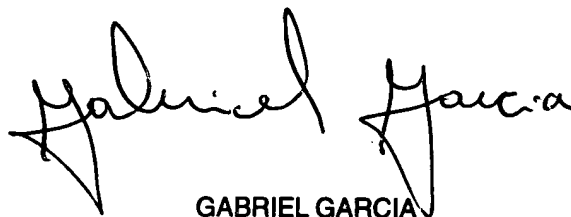
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L Pham whose telephone number is (703) 305-1897. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on (703)308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thierry L. Pham

TP



GABRIEL GARCIA
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